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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/487,688	01/19/2000	Daniel A Schoch	M-181	3451

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EXAMINER
KIM, PAUL L

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/487,688	SCHOCH, DANIEL A	
	Examiner	Art Unit	
	Paul L Kim	2857	

-- The MAILING DATE f this communication appears on the c ver sh et with th c rrespondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 7, 8, 11-19, and 23-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haseley et al and Canada et al.

With regard to claim 1, Haseley et al teaches a machine analyzer comprising a signal generator (col. 3, lines 34-35), a signal conditioner connected to the generator for calculating a value form the signal (col. 3, lines 35-40), a display (fig. 1, part 42), and a control unit configured to control the machine in accordance with generated signals (col. 4, lines 20-26).

Haseley et al teaches measuring vibration of machines in general (abstract) but does not specifically teach measuring signals of *press* machines being monitored. Canada et al (US 5,870,699) teaches a vibration measuring system that monitors vibration data of press machines (col. 1, lines 54-57). Since Haseley et al and Canada et al both monitor vibration of machine equipment, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al et al, so that press machine vibrations are monitored, as taught by Canada et al, in order to expand the versatility of the system.

With regard to claims 2, 3, 5, and 23, Haseley et al teaches the signal generator being an accelerometer and the accelerometer measuring machine conditions and creating a signal (col. 3, lines 24-26).

With regard to claim 4, Haseley et al teaches the signal generator being attached to the machine (col. 3, lines 27-32).

With regard to claim 7, Haseley et al does not teach the signal conditioner further conditioning the calculated value with an RMS to DC voltage converter. Canada et al teaches the signal conditioner converting RMS to DC voltage (col. 11, lines 59-61). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al, so that the conditioner includes an RMS to DC voltage converter, as taught by Canada et al, in order to produce a signal that is more easily processed by the electronic circuitry.

With regard to claim 8, Haseley et al teaches a display for displaying calculated voltage values (fig. 1, part 42)..

With regard to claims 11 and 12, Haseley et al teaches a switch being used for selecting calculated values (col. 5, lines 17-21).

With regard to claims 13, 14, and 24, Haseley et al teaches the control unit further comprising a means for controlling machine function in response to calculated values from the signal conditioner (col. 4, lines 14-19).

With regard to claim 15, Haseley et al teaches the controller processing vibration severity versus time calculation (col. 7, lines 14-20).

With regard to claims 16, 25, and 26, Haseley et al teaches an alarm signal generator (col. 4, lines 23-25).

With regard to claims 17 and 27, Haseley et al teaches a data storage device (fig. 1, part 38).

With regard to claims 18 and 28, Haseley et al teaches a modem for transmitting calculated values (col. 4, lines 34-37).

With regard to claim 19, Haseley et al teaches a machine condition measuring device comprising an accelerometer (col. 3, lines 24-26), a signal processing means (fig. 1, part 20) further comprising an acceleration processing means (col. 3, lines 35-41), a velocity processing means (col. 2, lines 64-65), a display (fig. 1, part 42), a switch (col. 5, lines 17-21), and a control unit configured to control the machine in accordance with generated signals (col. 4, lines 20-26).

Haseley et al teaches measuring vibration of machines in general (abstract) but does not specifically teach measuring signals of *press* machines being monitored. Canada et al (US 5,870,699) teaches a vibration measuring system that monitors vibration data of press machines (col. 1, lines 54-57). Since Haseley et al and Canada et al both monitor vibration of machine equipment, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al et al, so that press machine vibrations are monitored, as taught by Canada et al, in order to expand the versatility of the system.

Haseley et al also does not teach calculating displacement values for the machine. Canada et al teaches the vibration measuring system measuring a

displacement value (col. 6, lines 13-16). Since Haseley et al and Canada et al both monitor vibration of machine equipment, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al, so that machine displacement values are calculated, as taught by Canada et al, in order to measure different aspects of machine performance.

With regard to claim 29, Haseley et al teaches monitoring a machine comprising generating a machine vibration severity zone chart (fig. 3a, part 84 & col. 7, lines 35-45), monitoring the vibration severity (col. 7, lines 33-35), outputting the severity data (fig. 1, part 42), and controlling the machine in accordance with the monitored vibration severity (col. 4, lines 20-26).

Haseley et al teaches measuring vibration of machines in general (abstract) but does not specifically teach measuring signals of *press* machines being monitored. Canada et al (US 5,870,699) teaches a vibration measuring system that monitors vibration data of press machines (col. 1, lines 54-57). Since Haseley et al and Canada et al both monitor vibration of machine equipment, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al et al, so that press machine vibrations are monitored, as taught by Canada et al, in order to expand the versatility of the system.

With regard to claims 30, 36, and 40, Haseley et al et al teaches a machine analyzer comprising: a machine vibration monitoring apparatus being operatively coupled to the machine sensor assembly (fig. 1, part 12), the monitoring apparatus

comprising a processor to process sensor signals (fig. 1, part 20) and a controller coupled to the processor configured to control the machine (col. 4, lines 20-26).

Haseley et al teaches measuring vibration of machines in general (abstract) but does not specifically teach measuring signals of *press* machines being monitored. Canada et al (US 5,870,699) teaches a vibration measuring system that monitors vibration data of press machines (col. 1, lines 54-57). Since Haseley et al and Canada et al both monitor vibration of machine equipment, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al et al, so that press machine vibrations are monitored, as taught by Canada et al, in order to expand the versatility of the system.

With regard to claim 31, Haseley et al teaches the controller configured to control the machine in accordance with processed sensor signals (col. 4, lines 20-26).

With regard to claims 32, 33, and 37, Haseley et al teaches the processor configured to generate an acceleration measurement (col. 3, lines 24-26) and a velocity measurement (col. 2, lines 64-65).

With regard to claims 34, 38, and 42, Haseley et al teaches a display coupled to the processor (fig. 1, part 42).

With regard to claims 35, 39, and 41, Haseley et al teaches the monitoring apparatus defining a built-in element of the machine (col. 5, lines 35-41).

With regard to claim 43, Haseley et al teaches performing an alarm notification task (col. 4, lines 23-25)

3. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Haseley et al and Canada et al in view of Kurihara.

Haseley et al teaches the machine vibration system conditioning the vibration data by a signal filter (fig. 1, part 17), but does not teach conditioning the calculated value by a peak-to-peak detector. Kurihara teaches a machine vibration detector that conditions a signal by a peak-to-peak detector (col. 15, lines 55-60 & fig. 18, lines 41-43). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al et al, so that the conditioner includes a peak-to-peak detector, as taught by Kurihara, in order to sum the absolute values of positive and negative voltages.

4. Claims 9, 10, and 20-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Haseley et al and Canada et al in view of Bevill et al.

Haseley et al teaches the display indicating vibration data severity zone system (fig. 3a, part 84), but does not teach the display having a vibration zone system using *LEDs* to indicate vibration severity. Bevill et al teaches a voltage measuring system for a network, that uses color coded LEDs to indicate network quality (col. 4, lines 25-30). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Haseley et al, so that machine vibration condition is indicated by LEDs, as taught by Bevill et al, in order to more easily indicate machine condition to the user.

R spons to Arguments

5. Applicant's arguments filed May 22, 2003 have been fully considered but they are not persuasive. With regard to the plurality of severity zones on pages 2 and 3, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233 (CCPA 1955). Haseley et al teaches the system controlling the press in accordance with calculated values in relation to severity operating zones (col. 7, lines 35-40 and col. 8, lines 50-54).

In response to applicant's argument that there is no suggestion to combine references, on the bottom of page 4, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The use of LEDs to visually communicate information is well known in the art as taught by Bevill et al.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 703-305-7468. The examiner can normally be reached on Monday-Thursday, 9:00 – 7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 703-308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-4440, for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK
July 15, 2003

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800